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Science, Policy, Markets—What's Ahead?

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Some Invasive Species Activities in Australia

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Goal

To show similarities and differences in how the U.S. and Australia deal with invasive species.

Australian Government Activities

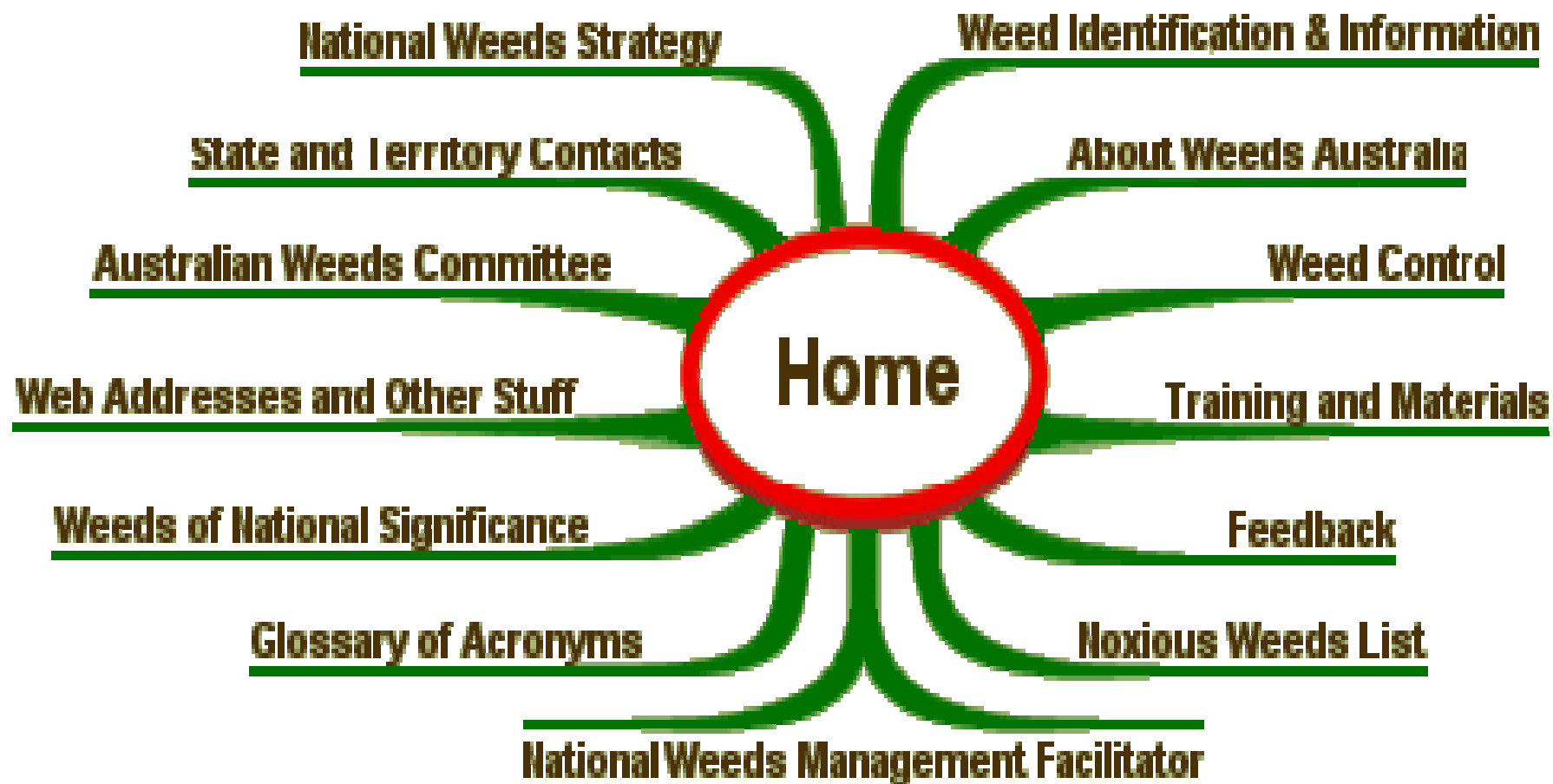
- Australian Customs Service
- Australian Quarantine Inspection Service
- Department of Agriculture, Fisheries and Forestry
- Department of the Environment and Heritage
- National Strategy for the Conservation of Australia's Biological Diversity
- National Weeds Strategy
- National Heritage Trust
- National Weeds Management Facilitator
- State of the Environment Report – Australia -- 2001
- Weeds Australia
- List of Weeds of National Significance (WONS)
- List of Weeds on the National Environmental Alert List
- State and Territory Laws and Activities
- Commonwealth Scientific and Industrial Research Organisation (CSIRO)

Invasive species in Australia

WEEDS AUSTRALIA



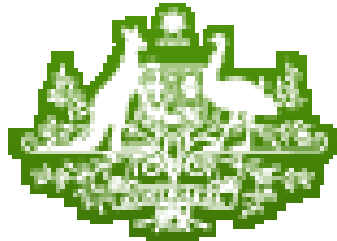
An Australian Weeds
Committee National
Initiative



National Weeds Strategy

- In response to the need for improved management and coordination of weed activities, Commonwealth, State and Territory Ministers responsible for the environment, agriculture and forestry endorsed the *National Weeds Strategy: A Strategic Approach to Weed Problems of National Significance* in June 1997 (2nd edn. published in March 1999).
- The *Strategy* provides the framework to reduce the impact of weeds on the sustainability of Australia's productive capacity and natural ecosystems, through the establishment of a number of goals and objectives for action and outcomes.
- To be successful, the *Strategy* requires a cooperative approach between all levels of government, industry, land holders and land and water managers, community groups and the general public.
- The *Strategy* is implemented by governments and industry on advice from the Australian Weeds Committee.

Invasive species in Australia



Australian Government

Department of the Environment and Heritage

Australian definition:

- “An invasive species is a species occurring, as a result of human activities, beyond its accepted normal distribution and which threatens valued environmental, agricultural or personal resources by the damage it causes.”

www.invasivespecies.gov

- ❏ **US Federal Government definition :**
 - 1. Non-native (or alien) to the ecosystem under consideration *and***
 - 2. Whose introduction causes or is likely to cause economic or environmental harm or harm to human health (Executive Order 13112).**
 - 3. Invasive species can be plants, animals, and other organisms (e.g., microbes). Human actions are the primary means of invasive species introductions.**

Invasive Species Include

- ❖ **Diseases, Fungi and Parasites**
- ❖ **Feral Animals**
- ❖ **Insects and Other Invertebrates**
- ❖ **Introduced Marine Pests**
- ❖ **Weeds**

Commonwealth Legislation

- The Department of the Environment and Heritage administers the *Environment Protection and Biodiversity Conservation Act 1999*.
- Under the EPBC Act, the Commonwealth can, among other things:
 - List Key Threatening Processes (KTP): Processes which may threaten the survival, abundance or evolutionary development of a native species or ecological community (e.g., feral rabbits, foxes, goats, cats, and pigs; fire ants; root rot fungus; psittacine circoviral beak and feather disease); and
 - Develop and Implement Threat Abatement Plans (TAPs): Plans which provide for the research, management, and any other actions necessary to reduce the impact of a Listed KTP on a listed threatened species or ecological community.

Key Threatening Processes (KTP)

- A KTP threatens or may threaten the survival, abundance or evolutionary development of a native species or ecological community (for example predation by the European red fox).
- A process can be listed as a KTP if it could (1) cause a native species or ecological community to become eligible for adding to a threatened list (other than conservation dependent); (2) cause an already listed threatened species or threatened ecological community to become more endangered; or (3) if it adversely affects two or more listed threatened species or threatened ecological communities.
- The assessment of a process as a KTP is the first step to addressing the impact of a particular threat under Commonwealth law.
- Once a threatening process is listed under the *EPBC Act* a *Threat Abatement Plan* can be put into place if it is proven to be “a feasible, effective and efficient way” to abate the threatening process.

Threat Abatement Plans (TAP)

- ❁ The Australian Government Minister for the Environment and Heritage may decide whether to have a TAP for a threatening process in the list of KTP established under the *EPBC Act*.
- ❁ TAPs provide for the research, management, and any other actions necessary to reduce the impact of a listed KTP on a threatened species or ecological community.
- ❁ Implementing the plan should assist the long term survival in the wild of the threatened species or ecological community.

Approved Threat Abatement Plans

- Competition and Land Degradation by Feral Goats
- Competition and Land Degradation by Feral Rabbits
- Dieback caused by the root-rot fungus (*Phytophthora cinnamoni*)
- Incidental catch (or by catch) of Seabirds during Longline Fishing Operations
- Predation by Feral Cats
- Predation by European Red Fox

Draft Threat Abatement Plans

- ❖ **Draft TAP for Infection of Amphibians with Chytrid Fungus Resulting in Chytridiomycosis**
- ❖ **Draft TAP for Psittacine Circoviral (beak and feather) Disease Affecting Endangered Psittacine Species**
- ❖ **Draft TAP for Predation, Habitat Degradation, Competition and Disease Transmission by Feral Pigs**

Australian Government Funding

- ⊕ The Natural Heritage Trust funds, among other things, activities to reduce the threat from invasive species.
- ⊕ Invasive Species National Projects are funded by NHT:
 - 28 Threat Abatement Projects in 2002-2004 (\$3.5 M) on on feral goats, cats, rabbits, foxes and pigs, the cane toad, chytrid fungus of amphibians, fencing projects, a fox immunocontraceptive vaccine, etc.; and
 - 25 Weed Projects in 2002-2004 (\$2.9 M) on *Salvinia*, alligator weed, *Cabomba*, *Hymenachne*, boneseed, Bitou bush, bridal creeper, *Mimosa*, and pond apple, and on project coordination.

Threatened Species Scientific Committee

- The establishment of the Threatened Species Scientific Committee is provided for under the *EPBC Act*.
- The *EPBC Act* also sets out the functions of the Committee, including advising the Minister for the Environment and Heritage on the amendment and updating of lists for threatened species, threatened ecological communities, and key threatening processes together with the making or adoption of recovery plans and threat abatement plans.

Invasive Species Notices

- Tender Number: 11/2005DEH – For the provision of an Overview of the impacts of introduced Aquarium Fish species that have established wild populations in Australia. - due 8 March 2005
- Tender Number: 12/2005DEH – For the provision of an updated Overview of the impacts of introduced Salmonids in Australia. - due 8 March 2005
- Tender Number: 16/2005DEH – For provision of experimental research to developed standardized diagnostic tests that allow for differentiation between prior exposure, active infection and protective immunity for Beak and Feather Disease Virus. - due 8 March 2005
- Tender Number: 17/2005DEH – For provision of a project that develops agreed hygiene protocols for the control of diseases (particularly beak and feather disease) in Australian birds. - due 8 March 2005
- Tender Number: 18/2005DEH – For the provision of experimental research to obtain a better understanding of the epidemiology and environmental impacts of *Phytophthora cinnamoni*. - due 8 March 2005
- Tender Number: 19/2005DEH – For the provision of research into natural and induced resistance in Australian vegetation of *Phytophthora cinnamoni* and innovative methods to contain and/or eradicate within localised incursions in areas of high biodiversity in Australia. - due 8 March 2005



CRC for Weed Management

- ❁ **The Cooperative Research Centre for Australian Weed Management is working to enhance the sustainability of farming systems and the conservation status of natural ecosystems across Australia through world-class collaborative research that targets generic control problems using integrated weed management.**

Summary

- ✿ **There is a high degree of parallel development of invasive species concepts, authorities and implementation between Australia and the USA.**
- ✿ **The main divergence is that Australia defines “invasive species” much more narrowly than does the USA.**